## REMARKS

The Office Action requires restriction under 35 U.S.C. § 121 to one of Groups I-XI.

I. Claims 1, 3-6, 11,43-54, 59-60, 75-76, 97, 109 and 110, drawn to a method of treatment in a mammalian subject comprising administering an intermediary metabolite, are classified in class 424, subclass 1.11.

II. Claims 2-6 and 26, drawn to a method of treatment in a mammalian subject comprising administering a T cell ligand, are classified in class 424, subclass 154.1.

III. Claims 7, 55, 76, 93 and 110, drawn to a screening assay for an analogue or derivative of an intermediary metabolite and treatment using NKT cells, antigen presenting cells and an analogue or derivative of said intermediary metabolite, are classified in class 435, subclass 5.

IV. Claims 8, 56, 76,94 and 110, drawn to an screening assay for an analogue or derivative of an intermediary metabolite and treatment using various combinations of NKT cell, BSA, an analogue or derivative of said intermediary metabolite and antigen presenting cells, are classified in class 435, subclass 5.

V. Claims 9, 10, 57-58,75-76,81-92, 95-96 and 109-110, drawn to a method of treatment using cells ex vivo in the presence of an intermediary metabolite, are classified in class 424, subclass 93.21.

VI. Claims 12, 61-63 and 99, drawn to a therapeutic composition comprising an intermediary metabolite, are classified in class 514, subclass 12.

VII. Claim 22, drawn to an in *vitro* screening assay for an analogue or derivative of a T cell receptor ligand and using a combination of antigen presenting cells, NKT cells and derivative of said T cell receptor ligand, is classified in class 435, subclass 5.

VIII. Claim 23, drawn to an *in vitro* screening assay for an analogue or derivative of a T cell receptor ligand and treatment using BSA, NKT cells, and said analogue of a T cell receptor ligand, is classified in class 435, subclass 5.

IX. Claims 24-25, drawn to a method of treatment using cells ex vivo in the presence of T cell receptor ligand, are classified in class 424, subclass 154.1.

X. Claim 27, drawn to therapeutic composition comprising T cell receptor ligands, is classified in class 514, subclass 12.

XI. Claims 64-66 and 100-108, drawn to a use of an intermediary metabolite in the manufacture of a composition, are classified in class 514, subclass 12.

### *A. Response to Restriction Requirement*

Applicants respectfully request reconsideration of the Restriction Requirement and respectfully suggest reformulating the restriction requirement as follows:

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| Group A | Inventions I and II (Claims 1-6, 11, 26, 43-54, 59-60, 75-76, 97, 109, and 110), drawn to and method of treatment comprising administering an intermediary metabolite; |
| Group B | Inventions III, IV, VII, and VIII (Claims 7, 8, 22, 23, 55, 56, 76, 93, 94, and 110), drawn to a screening assay for an analogue or derivative; |
| Group C | Invention V and IX (Claims 9, 10, 24-25, 57-58,75-76,81-92, 95-96 and 109-110), drawn to a method of treatment using cells *ex vivo*; |
| Group D | Invention VI and X (Claims 12, 27, 61-63, and 99), drawn to a therapeutic composition comprising an intermediary metabolite; and |
| Group E | Invention XI (Claims 64-66 and 100-108), drawn to a use of an intermediary metabolite in the manufacture of a composition. |

Applicants respectfully request rejoinder of particular groups of inventions in view of the following remarks.

1. The claims of Group A share a single inventive concept

The Office Action has restricted Inventions I-II (Group A) on the basis that the inventions are not disclosed as capable of use together. Specifically, the Office Action alleges that an intermediary metabolite and T cell receptor ligand are necessarily different. Applicants respectfully disagree with this characterization and have amended

claims 2 and 26 to recite that a T cell receptor ligand may fall within the scope of an intermediary metabolite. This amendment is consistent with elements recited in claims dependent on the claims of Groups I and II. For instance, claims 13-19 have the same or similar elements as claims 28-34. For example, claim 13 specifically recites that the intermediary metabolite is a lipid or a conjugated biomolecule while claim 28 recites that the T cell ligand is a lipid or a conjugated biomolecule. Claim 14 recites that the intermediary metabolite may be a polar lipid, while claim 29 recites that the T cell ligand may be a polar lipid. Claims 15-19 have the same or similar elements with respect to the intermediary metabolite as claims 30-34 have for the T cell ligand.

The Examiner has stated that the above referenced claims 13-19 and 28-34 have been objected to in regard to form, but they are still present to demonstrate the overlap of subject matter that exist between sets of claims that recite the term "intermediary metabolite" and "T cell ligand." As such, Applicants respectfully submit that there is sufficient overlap between the two terms and that it should not be a basis for separation of these claims into different applications. Accordingly, rejoinder of Inventions I and II is respectfully requested.

2. The claims of Group B share a single inventive concept

The Office Action has restricted Inventions III, IV, VII, and VIII (Group B) on the basis that an intermediary metabolite and T cell receptor ligand are necessarily different. As presented above, the current amendments to claims 22 and 23 recite that a T cell receptor ligand may fall within the scope of an intermediary metaboloite, and thus contrary to the basis for restricting between these groups, a T cell receptor ligand is not necessarily different from an intermediary metabolite. Accordingly, rejoinder of Inventions III, IV, VII, and VIII is respectfully requested.

The Office Action also alleges that Inventions III/VII and IV/VIII are unrelated because the assays require different starting materials. In contrast to this characterization, however, applicants respectfully submit that the methods of III/VII and IV/VIII are not unrelated. For example, claim 8 (Invention IV) starts off with the same or similar starting material in test tube iv as is included in provision step a) of claim 7 (invention III). Specifically, (i) regulatory, immune regulatory or NKT cells, (ii)

antigen presenting cells, and (iii) an analogue or derivative of an intermediary compound. In addition to the starting material in tube (iv), the other tubes (i, ii and iii) have materials that are more or less the same that can be used to judge the authenticity of the results in tube (iv), i.e. controls. The added steps that are included as part of claim 8 are essentially similar to ones that would ordinarily be included by one skilled in the art as a matter of course when carrying out the process of claim 7. A similar situation exists with regard to claim 22 (Invention VII) and claim 23 (Invention VIII). It also should be pointed out that III, IV, VII and VIII are also united in seeking the same end product: an analogue or derivative that could be used to treat a disease. Accordingly, rejoinder of Inventions III, IV, VII, and VIII is respectfully requested.

3. The claims of Group C share a single inventive concept

The Office Action has restricted Inventions V and IX (Group C) on the basis that the inventions are not disclosed as capable of use together. Specifically, the Office Action alleges that an intermediary metabolite and T cell receptor ligand are necessarily different. Applicants respectfully disagree with this characterization and have amended claims 24 and 25 to recite that a T cell receptor ligand may fall within the scope of an intermediary metabolite. Accordingly, rejoinder of Inventions V and IX is respectfully requested.

4. The claims of Group D share a single inventive concept

The Office Action has restricted Inventions VI and X (Group D) on the basis that the inventions are not disclosed as capable of use together. Specifically, the Office Action alleges that an intermediary metabolite and T cell receptor ligand are necessarily different. Applicants respectfully disagree with this characterization and have amended claim 27 to recite that a T cell receptor ligand may fall within the scope of an intermediary metabolite. Accordingly, rejoinder of Inventions VI and X is respectfully requested.

Furthermore, Applicants additionally request that the claims of Group D be examined together with claims of Group C since the combination of all three components of Group D are used together to carry out the method of Group C.

Applicants respectfully disagree with the example provided in the Office Action to allege that invention VI is unrelated where the intermediary metabolite ceramide was cited as being able to induce apoptosis. It would only be unrelated if induction of apoptosis was unrelated to treatment of a disease. Yet it is well known that a major effort of interest in pharmaceutical research is the identification of apoptotic agents that may be applied to treatment of cancer in the hopes that there would be a preferential lethality to cancer cells as opposed to normal cells. Accordingly, rejoinder of all the claims of inventions V, VI, IX, and X (claims 9, 10, 12, 24-25, 57-58, 61-63, 75-76,81-92, 95-96, 99 and 109-110) is respectfully requested.

### *B. Election*

Applicants respectfully request that the Restriction Requirement be withdrawn and reformulated as provided above. Applicants particularly request that the claims of Inventions I and II, or Group A, be prosecuted in the same patent application in view of the above remarks. If applicant's request is granted, Applicants hereby provisionally elect Group A as set forth above. In the event that the requirement is made final and in order to comply with 37 C.F.R. § 1.143, Applicants hereby provisionally elect Invention I, **with traverse for the reasons set forth herein**. Applicants reserve the right to file one or more divisional application(s) directed to non-elected subject matter and reserve the right to petition the restriction requirement.

In response to the requirement for species election, applicants provisionally hereby elect A) monosaccharide ceramide and B) colitis. Applicants understand that the non-elected species will be rejoined upon allowance of a generic linking claim.

## CONCLUSION

Applicants maintain that the restriction requirement is improper and request examination of the claims of inventions I and II, or Group A, in their entirety. If the Examiner believes that the prosecution might be advanced by discussing the application with Applicants' representatives, in person or over the telephone, we would welcome the opportunity to do so.

It is believed that no additional fees are required with this submission. However, in the event that additional fees are deemed necessary, or in the event of any variance between the amount enclosed and the fees determined by the USPTO, please charge or credit any such variance to the undersigned's Deposit Account No. 50-0206.

Respectfully submitted,

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Dated: August 14, 2006 By: _____

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